WHAT IS CLAIMED IS

1. A machine for producing porous membranes (2) for medical use, starting with fluid substances consisting of mixtures (18, 19) of two or more components (18a, 18b, 18c, 19a, 19b, 19c), the machine being of the type comprising:

reserves (25a, 25b, 25c, 26a, 26b, 26c) of said components (18a, 18b, 18c, 19a, 19b, 19c),

spray means (36) for the fluid substances, connected to the reserves (25a, 25b, 25c, 26a, 26b, 26c),

a support (11) constituting an element (37) on which the fluid substances sprayed by the means (36) are deposited and build up, the element (37) and the spray means (36) being mobile relative to one another for substantially even distribution of the fluid substances designed to form the membrane (2), the machine further comprising, upstream of the spray means (36), mixer means (23, 24) for mixing together the components (18a, 18b, 18c, 19a, 19b, 19c) which form the fluid substances, in the desired relative mixing quantities, these relative quantities providing

the membrane (2) with given chemico-physical properties.

2. The machine according to claim 1, further comprising a central control unit (35) designed to act upon the mixer means (23, 24) to alter the relative quantities for mixture of the components (18a, 18b, 18c, 19a, 19b, 19c) of the fluid substances, according to the desired values set on the control unit (35).

3) The machine according to claim 1 or 2, wherein the spray means (36) comprise at least a first nozzle (16a) and a second nozzle (17a) for spraying a first mixture (18) and a second mixture (19) at the support (11).

4. The machine according to claim 3, further comprising at least one pump (21, 22) for supplying the fluid substances to the nozzles (16a, 17a).

5. The machine according to claim 3 or 4, further comprising at least one source (27) of pressurized gas for activating the nozzles (16a, 17a).

6. The machine according to any of the foregoing claims from 1 to 5, wherein the support (11) comprises a cylindrical element (12, 12c) for producing tubular porous membranes (2), the cylindrical element (12, 12c) being designed to turn about an axis of rotation (A).

7. The machine according to any of the foregoing claims from 1 to 5, wherein the element (37) on which the fluid substances sprayed are deposited and build up is a stent (40) designed to be covered by the substances, the stent (40) being supported by the machine using a wire (41) passing inside it and made to rotate about an axis of rotation (A).

8. The machine according to claim 7, further comprising a heating element (46) designed to heat a given zone (48) close to the stent (40).

9. The machine according to claim 6, wherein the spray means (36) comprise a first carriage (13) supporting the nozzles (16a, 17a), the first carriage (13) and the cylindrical element (12, 12c) being mobile relative to one another in a

direction (D) substantially parallel with the axis of rotation (A) of the cylindrical element (12, 12c).

10. The machine according to claim 9, wherein the first carriage (13) is driven by drive means so that it slides in the direction (D) substantially parallel with the axis of rotation (A) of the cylindrical element (12, 12c).

11. The machine according to any of the foregoing claims from 6 to 10, further comprising a second carriage (29) supporting an extractor hood (31), the second carriage (29) sliding in the direction (D) substantially parallel with the axis of rotation (A) and the extractor hood (31) being positioned over the nozzles (16a, 17a).

12. The machine according to any of the foregoing claims from 1 to 11, wherein one of the mixtures (18, 19) comprises a polymer and the other mixture (18, 19) comprises a non-solvent for the polymer.

13. The machine according to any of the foregoing claims from 1 to 12, further comprising means

(43) for the insertion of membrane (2) stiffening elements (45) during membrane (2) formation.

14. The machine according to claim 13, wherein the stiffening elements (45) comprise a filament (42) designed for insertion in the membrane (2).

15. The machine according to claim 13, wherein the stiffening elements (45) comprise a tubular mesh (44) designed for insertion in the membrane (2).

16. A method for producing porous membranes (2) for medical use starting with fluid substances consisting of mixtures (18, 19) of two or more components (18a, 18b, 18c, 19a, 19b, 19c), comprising the steps of:

supplying the fluid substances to spray means (36),

depositing and building up the fluid substances sprayed by the spray means (36) on a supporting means (11),

providing drive means for the spray means (36) and the supporting means (11) for substantially even distribution of the substances designed to form the membrane (2), wherein the supply step comprises the further step of changing the

relative quantities for mixture of the components (18a, 18b, 18c, 19a, 19b, 19c), according to the desired values, relative to the chemico-physical properties required of the membrane (2).

17. The method according to claim 16, wherein the step of changing the relative quantities for mixture of the components (18a, 18b, 18c, 19a, 19b, 19c) occurs substantially instantaneously according to a stepped function.

18. The method according to claim 16, wherein the step of changing the relative quantities for mixture of the components (18a, 18b, 18c, 19a, 19b, 19c) occurs continuously according to a gradual function.

19. The method according to any of the foregoing claims from 16 to 18, wherein the chemico-physical properties comprise the level of porosity of the membrane (2).

20. The method according to any of the foregoing claims from 16 to 19, further comprising the step of inserting stiffening elements (45) in the membrane (2) during membrane (2) formation.

21. The method according to any of the foregoing claims from 16 to 19, further comprising the step of heating a zone (48) close to a support (11) forming an element (37) on which the fluid substances sprayed are deposited and build up.